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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,003	01/25/2001	William Girzone	Girzone 2	5206

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EXAMINER

WANG, GEORGE Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/770,003

Applicant(s)

GIRZONE ET AL.

Examiner

George Y. Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02 June 2003 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falkenstein et al. (U.S. Patent No. 4,707,066, from hereinafter "Falkenstein") in view of Patterson (U.S. Patent No. 5,644,673).

4. Regarding claims 1, 3, and 9, Falkenstein discloses an optical fiber device with a housing (fig. 1, ref. G) having a wall (col. 5, lines 39-40), a vacuumed enclosure (fig. 1, ref. K; col. 3, lines 63-65), an optical fiber holding tube (fig. 1, ref. R) extending through the wall and having a first and second end (col. 5, lines 62-68), an optical fiber (fig. 1, ref. L), and a gas blocking device made of hot melt glue (col. 1, lines 65-67) and creates a seal that prevents water and gas from passing through the fiber holder (col. 3, lines 48-50), which is organized by a fiber insert (fig. 1, ref. W) and holes (col. 4, lines 27-49).

However, Falkenstein fails to specifically disclose a plurality of optical fibers and that they are also strength members.

Patterson discloses an optical fiber cable with a plurality of optical fibers that are also strength members (fig. 2a, ref. 218).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have specified the use of a plurality of optical fibers since one would be motivated to conduct modulated light pulses with information not to just one but multiple receiver modules (Falkenstein, col. 1, lines 14-20) for improved distribution of optical data and transmission efficiency. It would have been obvious to one of ordinary skill in the art at the time the invention was made to also use the optical fibers as strength members since one

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would recognize that any solid, longitudinal structure can serve as a strength member (Patterson, abstract; fig. 2a, ref. 218). Patterson's optical fibers are not only supported by the tube support (fig. 2a, ref. 222), which is made of longitudinal threads (abstract), but also support by each other within the tube (fig. 2a, ref. 218). Ultimately, incorporating a plurality of optical fibers as strength members would save space and material, thereby reducing production costs and creating an optical device that is light and compact.

5. Claims 2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falkenstein and Patterson, in view of Tanabe et al. (U.S. Patent No. 5,613,031, from hereinafter "Tanabe").

6. As to claim 2, Falkenstein and Patterson disclose an optical fiber device as recited above. However, the references fail to specifically disclose the gas being blocked is nitrogen.

Tanabe discloses fiber optic insert structure whose seal or gas blocking device prevents passage of nitrogen (col. 1, lines 19-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a gas blocking device preventing passage of nitrogen since one would be motivated to keep the most abundant gaseous element of our atmosphere from the fiber since optical elements tend to deteriorate in the air and surrounding atmosphere (col. 1, lines 19-20). This not only preserves longevity of the optical fibers but promotes stability and reliability in performance of the fiber and module (col. 1, lines 20-24).

7. As per claims 4, 6, and 8, Falkenstein discloses an optical fiber device as recited above with an optical fiber holding tube (fig. 1, ref. R) extending through the wall and having a first and second end (col. 5, lines 62-68) made metal soldering (col. 4, lines 53-57) and a gas blocking device made of hot melt glue (col. 1, lines 65-67) that creates a seal that prevents water and gas from passing through the fiber holder (col. 3, lines 48-50), which is organized by fiber inserts (fig. 1, ref. W) and holes (col. 4, lines 27-49). The passageway for the fiber is also conical with a wide and narrow portion and tapering middle section, such that the fiber insert is at the wide portion (fig. 1, ref. W).

8. As to claims 5 and 7, Falkenstein and Patterson disclose an optical fiber device as recited above. However, the reference fails to specifically disclose a locking member securing a non-compressible, fiber-organizing insert at one end of the fiber body.

Tanabe teaches an fiber optic insert structure with a locking member or fixing ring (fig. 1, ref. 23). Furthermore, the reference discloses that the insert is made of non-compressible material, such as an Fe-Ni-Co alloy and steel (col. 2, lines 32-34).

It would have been obvious to one of ordinary skill at the time the invention was made to have utilized a locking member to secure a non-compressible, fiber-organizing insert at one end of the fiber body since one would be motivated by increased hermetic, or air-tight, sealing. Although the reference teaches that it is not necessary or even beneficial to use this type of locking member on a non-compressible insert, Tanabe does disclose that it provides a hermetic sealing that is sufficient and complete (col. 1, lines 59-60).

9. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falkenstein, Patterson, and Tanabe, in further view of Berry et al. (U.S. Patent No. 4,657,346, from hereinafter "Berry").

Falkenstein and Tanabe disclose the optical fiber device as recited above. However, the references fail to specifically disclose the diameter of the narrow portion dimensioned such that the fibers act as strength members within the narrow portion of the passageway, in particular, having a cross-sectional area of fibers that is about $\frac{1}{2}$ to the cross-sectional area to the narrow portion.

Berry discloses an optical fiber device with a seal where the cross-sectional area of fibers is about $\frac{1}{2}$ when compared to the cross-sectional area to the narrow portion (fig. 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have specified this ratio of cross-sectional areas since one would be motivated to have the fibers act as strength members within the narrow portion of the passageway. Not only does this reduce the bulkiness of the device, but also to enhance the sealing effect of the device (col. 4, lines 21-25).

Response to Remarks/Arguments

10. In response to Applicant's amendment that the Falkenstein reference does not disclose or suggest a plurality of optical fibers that "are strength members " as recited in claim 1, Examiner asserts that it well known in the art that optical fibers, when bundled together, serve as strength members. Clearly, when you take the Falkenstein reference, which ascribes to the use of a plurality of optical fibers when it discloses that "the present invention was particularly

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developed for...systems with glass *fibers*" [italics inserted by Examiner for emphasis] (col. 1, lines 14-20), in conjunction with the Patterson reference, which illustrates the use of fibers used to support each other within a tube much like that in the Falkenstein reference, it is plain that a plurality of optical fibers enclosed within a tube not only serve to increase optical transmission, but also provide a structural skeleton of mutual support.

Therefore, Examiner holds to the validity of the references used and maintains rejection.


Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gw
July 11, 2003


ROBERT H. KIM
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